Factorization of Behavioral Integrity - DTU Orbit (08/11/2017)

Factorization of Behavioral Integrity

We develop a bisimulation-based nonintereference property that describes the allowed dependencies between communication behaviors of different integrity levels. The property is able to capture all possible combinations of integrity levels for the “presence” and “content” of actual communications. Channels of low presence integrity and high content integrity can be used to model the effect of Message Authentication Codes or the consequence of Denial of Service Attacks. In case the distinction between “presence” and “content” is deliberately blurred, the noninterference property specialises to a classical process-algebraic property (called SBNDC). A compositionality result is given to facilitate a structural approach to the analysis of concurrent systems.

General information

State: Published
Organisations: Department of Applied Mathematics and Computer Science , Language-Based Technology
Authors: Li, X. (Intern), Nielson, F. (Intern), Nielson, H. R. (Intern)
Pages: 500-519
Publication date: 2015

Host publication information

Title of host publication: Proceedings of th 20th European Symposium on Research in Computer Security - ESORICS 2015 : Part 2
Publisher: Springer
Editors: Pernul, G., Ryan, P. Y. A., Weippl, E.
ISBN (Print): 978-3-319-24176-0
ISBN (Electronic): 978-3-319-24177-7

Series: Lecture Notes in Computer Science
Volume: 9327
ISSN: 0302-9743
BFI conference series: European Symposium on Research in Computer Security (5010386)
Main Research Area: Technical/natural sciences
Conference: 20th European Symposium on Research in Computer Security (ESORICS 2015), Vienna, Austria, 21/09/2015 - 21/09/2015
DOIs:
10.1007/978-3-319-24177-7_25
Source: PublicationPreSubmission
Source-ID: 118021378
Publication: Research - peer-review › Article in proceedings – Annual report year: 2015